

JOHN COOPER  
MAYOR



## METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

DEPARTMENT OF WATER AND SEWERAGE SERVICES  
ENGINEERING DIVISION  
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November 30, 2022

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Re: DOJ Case No. 90-5-1-1-09000  
Request to Update CAP/ER and LTCP

Dear Colleagues,

I am writing to follow up on our earlier notice of the need to update our *Correction Action Plan / Engineering Report for Sanitary Sewer Overflows (CAP/ER)* and *Long-Term Control Plan for Combined Sewer Overflows (LTCP)* programs due to the current economic and other headwinds that we face trying to implement those programs while ensuring that we address the unprecedented community growth that we continue to experience. We raised these challenges and need to update

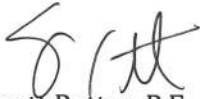
our programs in our March 31, 2022, letter and most recently in our October 26, 2022, *Quarterly Progress Report*.

Attached is a detailed summary of the changes that we believe are necessary to the programs to ensure that we will be able to achieve the selected performance measures while accommodating substantial population growth and community development that we are experiencing in our service area.

As the attached summary of changes notes, we have made tremendous progress working together. We propose to continue to make significant progress as we strive to (1) verify that our program will meet our performance measures using the latest available technical information, (2) ensure that the latest population projections are accommodated in our planning, (3) incorporate normal engineering changes expected for such a comprehensive program, and (4) be responsive to the unprecedented social, economic, operational, and project implementation challenges that we face.

We would welcome the opportunity to meet to discuss our proposed changes, and we will be in touch soon with proposed meeting dates. In the meantime, please let me know if you have any questions or require additional information.

Sincerely,



Scott Potter, P.E.  
Director, Metro Water Services

cc: Mr. David Tucker, Deputy Director, Metro Water Services  
Mr. Cyrus Q. Toosi, P.E., Assistant Director / Chief Engineer, Engineering  
Ron C. Taylor, P.E., Clean Water Nashville Overflow Abatement Program Director  
Mr. Thomas G. Cross, Deputy Director, Metropolitan Department of Law  
Mr. Paul Calamita, AquaLaw

## **Metro Water Services**

### **Proposed Updates and Revisions to Clean Water Nashville CAP/ER and LTCP**

**November 30, 2022**

Prior to and through the life of the Consent Decree, Metro Water Services (MWS) has remained committed to addressing sanitary and combined sewer overflows to achieve compliance with the Clean Water Act. Following the submittal of the Corrective Action Plan / Engineering Report for Sanitary Sewer Overflows (CAP/ER) and the Long-Term Control Plan for Combined Sewer Overflows (LTCP) and well prior to approval of the plans, MWS initiated numerous projects to expedite compliance. To date, MWS has completed over 40 projects with 15 additional projects currently under construction totaling \$857 million in project costs through its Clean Water Nashville Program. That includes a major investment at the Central Water Reclamation Facility, where work is scheduled to be complete in Fall 2023.

In addition to the Clean Water Nashville Program, MWS continues to make unprecedented capital investments in other aspects of our water, sewer, and stormwater systems, including:

- Design of major upgrades at the two drinking water plants with granular activated carbon (GAC) adsorbers to better protect from emerging contaminants of concern. The project will involve major reconstruction for preliminary treatment, new filtration facilities, renovation of existing filters to GAC adsorbers and new finished water storage. The project will also include replacing the raw and high service pumping facilities for the Omohundro treatment plant and elevated structures at the K.R. Harrington treatment facility for flood mitigation based on impacts from the May 2010 flood. The total cost for the water system upgrades is more than \$850 million based on preliminary design estimates.
- Construction of numerous water distribution projects, including a 14-million-gallon concrete tank inside the historic 8<sup>th</sup> Avenue Reservoir to enhance the integrity of the reservoir, which was built in 1888. A second phase will construct an additional 20-million-gallon concrete tank inside the existing 51-million-gallon reservoir, which is the largest storage tank in the MWS distribution system.
- Continued implementation of MWS's Energy Management Program. This includes initiation of solar power installations at four facility locations with a projected total output of 4.2 megawatts, as well as construction of a net-zero administration and maintenance building on the Central campus.
- Construction of wet-weather capacity improvements and UV disinfection at the Whites Creek Water Reclamation Facility. Fine bubble aeration improvements at Whites Creek have also been designed and will be bid soon.
- Construction of UV disinfection at the Dry Creek Water Reclamation Facility. Design is also underway for a new headworks facility along with solids handling improvements to produce Class A biosolids for reuse.
- Initiation of master planning for two long-term capital programs to address flooding. The first program will address flooding issues within the combined sewer system, and some of the associated projects will also assist in further reducing combined sewer overflows, beyond what

is presented in the LTCP. The second study will develop projects to mitigate flooding in the separate storm sewer system. Flood damage due to the historic May 2010 storms impacted 10,000 properties in Metro Davidson County, and improvements are needed to further protect residential and commercial properties from future damage. The capital costs for these two initiatives are not yet known but will likely represent a future potential investment in the billion-dollar range to be prioritized with other community infrastructure investments.

As MWS proceeds with historic improvements across the water, wastewater, and stormwater systems, the current economic and related headwinds have brought unanticipated cost escalation, labor shortages, and delays obtaining material and equipment that have impacted recent projects. This has been particularly evident with sewer rehabilitation where costs for cured-in-place pipe lining, manhole rehabilitation, service excavations, and other components are generally 50 percent higher than they were just two years ago. Due to cost escalation issues, modification in the scope of existing projects, and the addition of new projects to address problems that have been identified since the CAP/ER and LTCP were submitted, the estimated cost of Clean Water Nashville has risen from \$1.5 billion to over \$2.4 billion. Total project costs for the upgrades at the Central Water Reclamation Facility alone have risen to over \$500 million.

In addition to capital cost impacts, the continued unanticipated growth of Nashville and surrounding communities have led to a reevaluation of the potential effectiveness of numerous projects to address overflows and prepare for that growth. When the CAP/ER was initially developed in 2008-2011, project sizing accounted for 2030 projected flows, but some locations appear to have already surpassed those projected flows, and development does not appear to be slowing. This issue was most clearly brought to light during preliminary design for the Mill Creek Trunk Improvements and Equalization Facility Project, as discussed in our March 31, 2022, letter.

Because of the negative trends of unprecedented growth and cost escalation, MWS is compelled to request that 14 CAP/ER projects be paused while a CAP/ER and Sewer Master Plan Update is completed, which will better account for projected population growth through 2045. The pause will also allow further assessment of the effectiveness of completed projects, including both facilities projects and rehabilitation projects. The updates are expected to lead to changes in the scope and magnitude for several projects, as well as potentially identify the need for alternative solutions. Time will be needed to develop a revised Program schedule and budget to accommodate the revised projects and/or scopes. MWS anticipates that the CAP/ER and Sewer Master Plan Update will take approximately three years to complete in accordance with the preliminary schedule shown in Table 1 (attached).

The projects listed in Table 2 (attached) are requested to be paused until completion of the CAP/ER and Sewer Master Plan Update. MWS has limited the request to projects where the scope of the project (type of project, project extent, sizing, etc.) are likely sensitive to the projected population growth. In some cases, a proposed project may be removed, or additional projects added to address overflow locations following completion of the CAP/ER and Sewer Master Plan Update. The paused projects also include multi-phase rehabilitation projects, which will allow MWS to confirm the effectiveness of previous rehabilitation work and, hopefully, reduce the impact of untenable increases in rehabilitation costs. These increases are being seen by utilities across the country. MWS remains committed, though, to building on its outsized progress to date by maintaining reasonable further progress over the coming

several years to include completing four or more rehabilitation projects each year for sewer system renewal and control of infiltration and inflow, at a cost of approximately \$40 million per year.

MWS also requests that approved completion dates for seven additional CAP/ER projects and three LTCP projects be extended, as shown in Table 3 (attached). Our request is to move these internal deadlines within but not beyond the overall completion date for the CAP/ER and LTCP projects. For these seven projects, the design activities or the procurement of design services is underway. However, due to the economic and other headwinds discussed above, MWS currently does not anticipate that the projects will be completed prior to the project-specific approved completion dates. Projects are anticipated to be complete prior to the current end dates for the CAP/ER (August 2028) and the LTCP (December 2031).

The remaining 27 projects identified through the approved CAP/ER and LTCP (including subsequent addenda and updates) are expected to continue as scheduled. Those projects are listed in Table 4 (attached).

**Tables 1-4 Follow**

**Table 1 – Proposed Schedule for CAP/ER and Sewer Master Plan Update**

<b>Start Date</b>	<b>End Date</b>	<b>Duration (months)</b>	<b>Task</b>
1/1/2023	7/2/2023	6	Rainfall and flow monitoring - Round 1*
1/1/2023	7/2/2023	6	Update population projections
7/2/2023	7/1/2024	12	Model update, calibration, and verification
1/1/2024	7/1/2024	6	Rainfall and flow monitoring - Round 2*
7/1/2024	7/1/2025	12	Alternatives analysis
7/1/2025	12/31/2025	6	Report development

\*Assumes typical antecedent moisture conditions, rainfall events, and groundwater levels during the monitoring period.

**Table 2 – CAP/ER Projects Affected by Requested Pause**

<b>Project</b>	<b>Current Completion Target</b>	<b>Affected Overflows</b>
28th Avenue Rehabilitation - Future Areas	2027 Q2	28 <sup>th</sup> Avenue Pump Station / Centennial
Berwick Trail Pipe Improvements	2026 Q1	Berwick Trail Pump Station
Cowan Street Pipe Improvements	2026 Q2	Cowan Street Relief Bleeder / Pump Station, Riverside Drive Pump Station
Dodson Chapel - McCrory Creek Study	2023 Q2	Andrew Jackson Parkway, Dodson Chapel Pump Station, McCrory Creek Pump Station, Old Lebanon Dirt Road
Dodson Chapel - McCrory Creek Study - Future Projects	2028 Q3	Andrew Jackson Parkway, Dodson Chapel Pump Station, McCrory Creek Pump Station, Old Lebanon Dirt Road
Dry Creek Pipe Improvements	2027 Q1	Dry Creek Pump Station
Highway 100 & Tyne Boulevard Pipe Improvements	2028 Q3	Harding Place, Lynnwood Boulevard
Mill Creek Rehabilitation - Future Areas	2026 Q1	Barker Road, Bismark Drive, Browns Creek Pump Station / Visco Drive, Mill Creek – East Thompson Lane, Mill Creek – Hollydale Drive, Mill Creek – Old Glenrose, Mill Creek – Wimpole
Mill Creek Trunk Improvements and Equalization Facility	2028 Q3	Barker Road, Bismark Drive, Browns Creek Pump Station / Visco Drive, Mill Creek – East Thompson Lane, Mill Creek – Hollydale Drive, Mill Creek – Old Glenrose, Mill Creek – Wimpole
Norman Drive Pipe Improvements	2027 Q4	Norman Drive
Peppertree Forrest Pump Station Upgrades	2028 Q3	Peppertree Forrest Pump Station
Riverside Drive Pump Station Upgrades	2028 Q1	Riverside Drive Pump Station
Shelby Park Rehabilitation - Future Areas	2027 Q4	Shelby Park Pump Station
Smith Springs Rehabilitation - Future Areas	2026 Q3	Smith Springs Pump Station

**Table 3 – Requested Revisions to Completion Dates**

<b>Project</b>	<b>Current Completion Target</b>	<b>Affected Overflows</b>	<b>Proposed Completion Date</b>
Benedict & Crutcher Sewer Separation	2028 Q3	Benedict & Crutcher CSO	2031 Q4
Berwick Trail Pump Station Upgrades	2025 Q3	Berwick Trail Pump Station	2028 Q3
Boscobel Sewer Separation	2029 Q2	Boscobel CSO	2031 Q4
Hidden Acres Pump Station Upgrades	2025 Q4	Hidden Acres Pump Station	2028 Q3
Loves Branch Pump Station Upgrades	2027 Q1	Loves Branch Pump Station	2028 Q3
Neely's Bend Pump Station Upgrades	2025 Q3	Berwick Trail Pump Station, Neely's Bend Pump Station	2028 Q3
Rowan Cravath Gravity Sewer Upsizing	2025 Q1	Cravath Drive, Rowan Drive	2026 Q2
Rowan Cravath Rehabilitation	2025 Q1	Cravath Drive, Rowan Drive	2026 Q2
Schrader Sewer Separation	2028 Q1	Schrader CSO	2031 Q4
Vandiver Pump Station Upgrades	2027 Q1	Vandiver Pump Station	2028 Q3



**Table 4 – Projects Proceeding as Scheduled**

<b>Project</b>	<b>Current Completion Target</b>	<b>Affected Overflows</b>
28th Avenue Rehabilitation - Area 2 - Batavia Street	2024 Q2	28 <sup>th</sup> Avenue Pump Station / Centennial
Annual Rehabilitation FY2017 - Dry Creek	2023 Q3	Dry Creek Pump Station, Gallatin Pike
Annual Rehabilitation FY2017 - Shepherd Hills	2023 Q4	Dry Creek Pump Station
Annual Rehabilitation FY2020 - West Nashville	2024 Q3	Basswood, Richland Creek (23rd Street), Richland Creek (TDOT), West Park Pump Station
Bandywood - Green Hills Rehabilitation	2024 Q4	Galbraith Drive
Central WWTP Capacity Improvements and CSO Reduction	2025 Q1	Kerrigan CSO
Cleeces Ferry Rehabilitation - Area 1 - Summerly Drive	2024 Q3	Cleeces Ferry Pump Station
Cleeces Ferry Rehabilitation - Area 2	2027 Q1	Cleeces Ferry Pump Station
Cowan Street Pump Station Upgrades	2025 Q3	Cowan Street Relief Bleeder / Pump Station, Riverside Drive Pump Station
Davidson Branch Pump Station and Equalization Facility	2023 Q4	Davidson Branch Pump Station
Foster Avenue Rehabilitation	2025 Q4	Foster Avenue, Louise Drive, Barker Road, Bismark Drive, Browns Creek Pump Station / Visco Drive, Mill Creek – East Thompson Lane, Mill Creek – Hollydale Drive, Mill Creek – Old Glenrose, Mill Creek – Wimpole
Gibson Creek Equalization Facility	2024 Q1	Berwick Trail Pump Station, Gibson Creek Pump Station, Neely's Bend Pump Station
Henry Ford Drive Rehabilitation	2026 Q1	Henry Ford Drive
Hopedale Rehabilitation	2028 Q3	Hopedale Pump Station
Hurricane Creek Pipe Improvements	2024 Q4	Hurricane Creek Pump Station
Joelton Pump Station Upgrades	2028 Q3	Joelton Pump Station
Kerrigan Weir Dynamic Addition	2030 Q3	Kerrigan CSO
Lakewood Rehabilitation - Area 2 - Pitts Avenue	2024 Q4	Lakewood Pump Station
Langford Farms Force Main Assessment	2022 Q4	Langford Farms Pump Station
River Drive Rehabilitation	2027 Q2	River Drive Pump Station
Sevenmile Creek Rehabilitation - Area 1	2024 Q2	Barker Road, Bismark Drive, Browns Creek Pump Station / Visco Drive, Mill Creek – East Thompson Lane, Mill Creek – Hollydale Drive, Mill Creek – Old Glenrose, Mill Creek – Wimpole
Shelby Park Rehabilitation - Area 6 - Shelby Trunk	2023 Q4	Shelby Park Pump Station
Smith Springs Rehabilitation - Area 3 - Harbour Town	2024 Q1	Smith Springs Pump Station, Timber Ridge
Sunliner Gravity Sewer Repairs	2028 Q3	Sunliner Drive Pump Station
Tuckahoe & Nesbitt Rehabilitation	2026 Q1	Brick Church
Wallace Lane Rehabilitation	2025 Q3	Abbott Martin Road, Wallace Lane
Williamson Ferry Gravity Sewer Repairs	2022 Q4	Williamson Ferry Pump Station